

Valves Control Flow to 40 U.S. gpm (151 L/min)

SPECIFICATIONS

General

For a description of spools, operator functions, electrical options and operating recommendations refer to *dynexdcvoperating.pdf*.

Mounting

Subplate, N.F.P.A. D05 (CETOP 5) pattern, with auxiliary "X" and "Y" ports for external pilot and drain.

Rated Flow

Nominal: 30 U.S. gpm (114 L/min)
Maximum: 40 U.S. gpm (151 L/min)
for most spool types.

Models with Type 56 or 58 spools are rated for 15 gpm (57 L/min) maximum. Contact the Dynex sales department about higher flows using these spools.

Rated Pressure

5000 psi (350 bar)

Tank Port Pressure (Maximum)

Standard External Drain:

5000 psi (350 Bar)

Internal Drain: 1500 psi (105 bar)

Internal Drain with "HPT" Option:

A.C., 2300 psi (160 bar);

D.C., 3000 psi (210 bar)

Solenoid Piloted Models

Pilot Pressure:

Minimum, 65 psi (5 bar);

Maximum, 5000 psi (350 bar)

Solenoids:

These models use a D03 as a pilot.

Hydraulic Piloted Models

Pilot Pressure:

Minimum, 100 psi (7 bar), except

models with Code 5 operator,

85 psi (6 bar);

Maximum, 3000 psi (210 bar)

Volume:

Maximum required to shift spool full stroke, 0.21 in³ (3,4 cm³)

Air Piloted Models

These models use an air piloted D03 as a pilot valve.

Oil Pilot Pressure:

Minimum, 65 psi (5 bar);

Maximum, 5000 psi (350 bar)

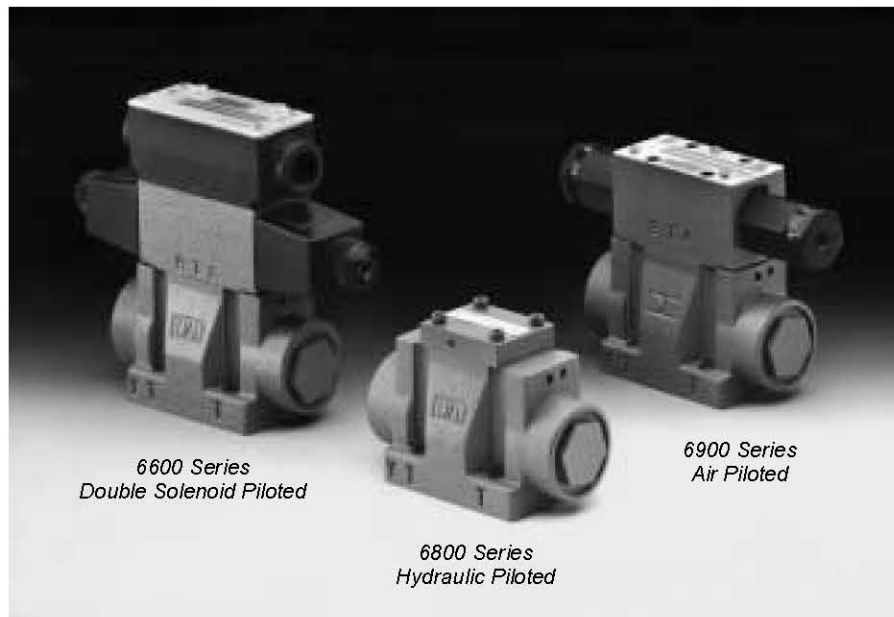
Air Pilot Pressure:

Minimum, 40 psi (3 bar);

Maximum, 200 psi (14 bar)

Volume (Air):

Maximum required to shift spool full stroke, 0.22 in³ (3,6 cm³)



TYPICAL PERFORMANCE

The curves show resistance for various spool types. The table identifies the appropriate pressure drop curve for each spool and flow path.

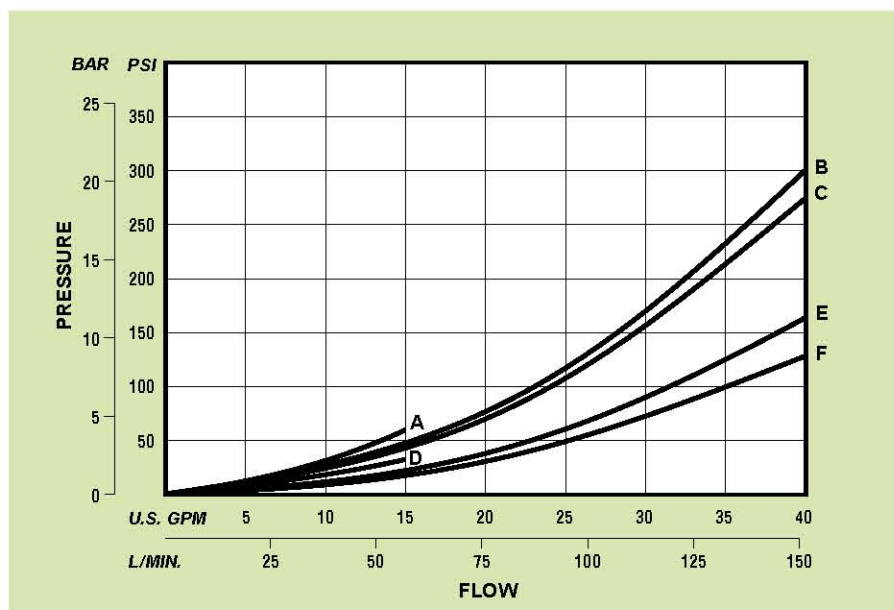
To determine total "loop" drop the individual pressure drops for P→A and B→T (or P→B and A→T) must be added.

CURVE REFERENCE

Flow Path	Spool Type					
	5	6	8	9	56 ^①	58 ^①
P→A	B	C	B	B	C	C
P→B	B	C	B	B	C	C
A→T	E	F	F	E	D	D
B→T	E	F	F	E	D	D
P→T	—	C	—	—	A	A

^① Models with Type 56 and 58 spools are rated for 15 gpm (57 L/min) maximum flow.

PRESSURE DROP (ΔP)



Installation and Dimensions

GENERAL VALVE MOUNTING

The mounting surface drawing shows the minimum flush or raised surface required for the N.F.P.A. D05 (CETOP 5) pattern. This high flow pattern includes auxiliary "X" and "Y" ports and two "T" ports into a common tank passageway.

Mounting face must be flat within 0.0004 inch/4.0 inches (0,010 mm/102 mm) with a surface finish of 32 microinch (0,80 µm) AA.

Port o-rings are included with all valves. Mounting bolts must be ordered separately, .250-20 U.N.C. Threaded x 1.00 inches (25,4 mm), Grade 8 or better; four required. Recommended torque is 12 lb-ft (16 N·m) maximum.

SOLENOID MODEL DIMENSIONS

These models use a D03 valve as a pilot valve. Overall length of a single solenoid model (not shown) is 7.00 inches (177,8 mm).

Section X-X below shows the location of orifice for standard internal pilot and plug for standard external drain, on solenoid and air piloted models. For conversion to external pilot, replace orifice with set-screw, 10-24 U.N.C. Threaded x .25 inch (6,4) long, part number 10590270.

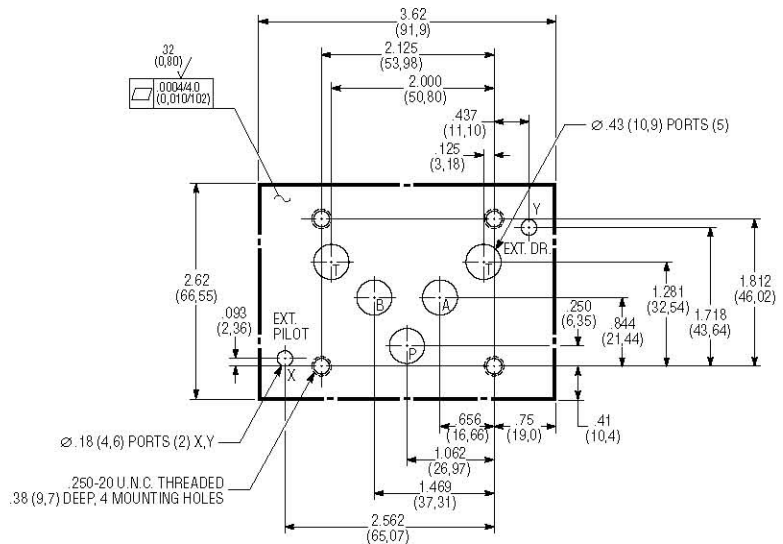
Weight (Mass)

Single Solenoid:

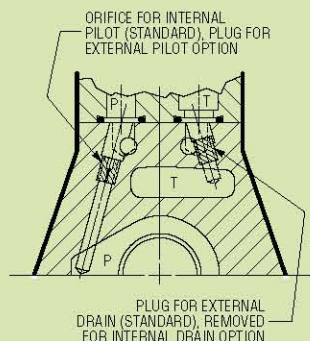
- A.C., 9.3 lb (4,2 kg);
- D.C., 9.8 lb (4,4 kg).

Double Solenoid:

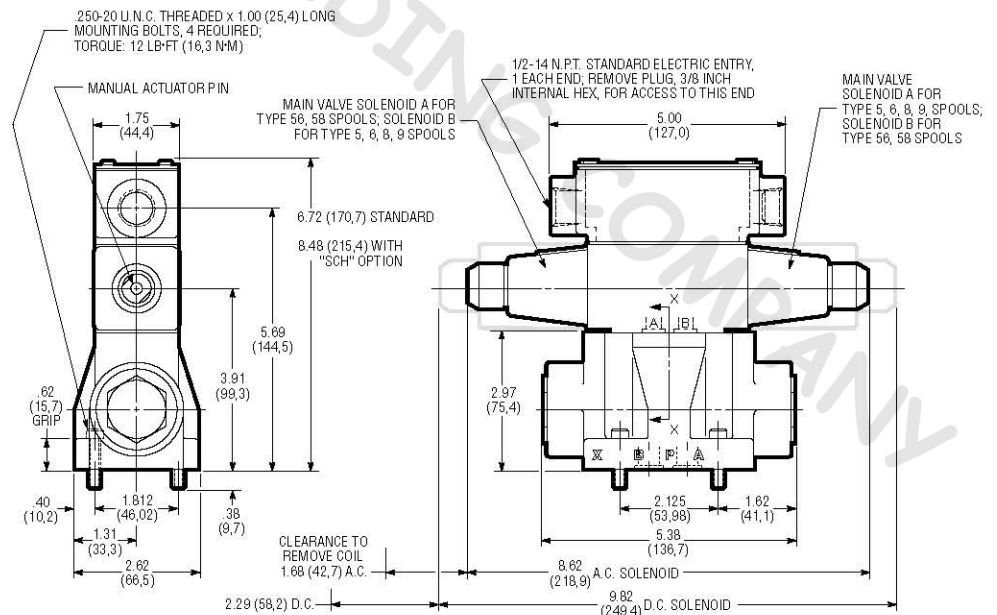
- A.C., 10.0 lb (4,5 kg);
- D.C., 11.3 lb (5,1 kg)



Minimum Mounting Surface, N.F.P.A. D05 (CETOP 5) Pattern with Auxiliary "X" and "Y" ports and Two Ports (T) Into Common Tank Passageway



Section X-X



6600 Series, Double Solenoid Piloted Models

EXPLOSION PROOF SOLENOIDS

These models use a D03 pilot valve with explosion proof solenoids ("EPW" option). The solenoids with special enclosures are approved by UL and recognized by CSA for use in hazardous locations.

The overall length of models with a single "EPW" solenoid, not shown, is 8.90 inches (226.1 mm).

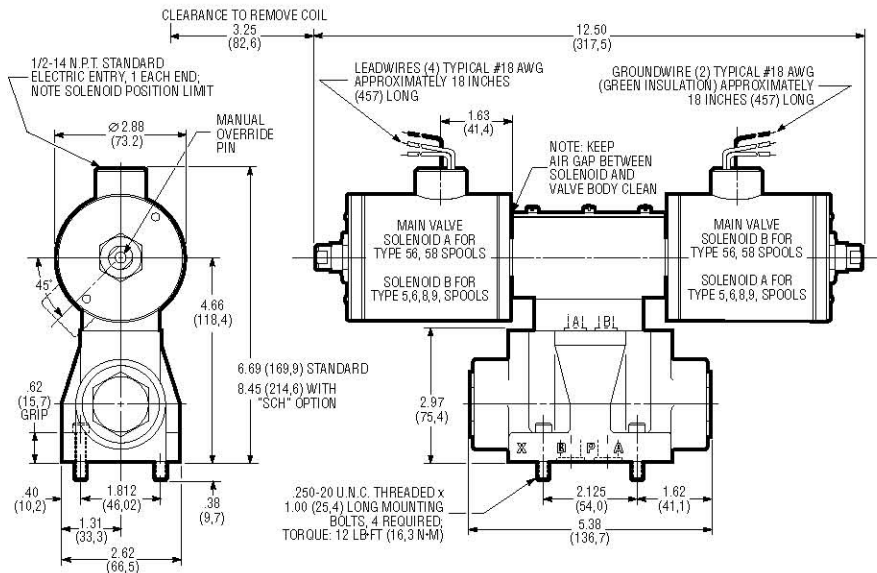
Note that a spacer plate provides mounting clearance for solenoids. A spacer kit, KV00301065, and bolt kit, P25-BK-24, are available for conversions.

UL Classification

Class I, Group C, D;
Class II, Group E,F,G

Weight (Mass)

Single Solenoid: 14.3 (6,5 kg);
Double Solenoid: 20.0 lbs. (9,1 kg.)



6600 Series, Double "EPW" Solenoid Models

HYDRAULIC PILOTED MODELS

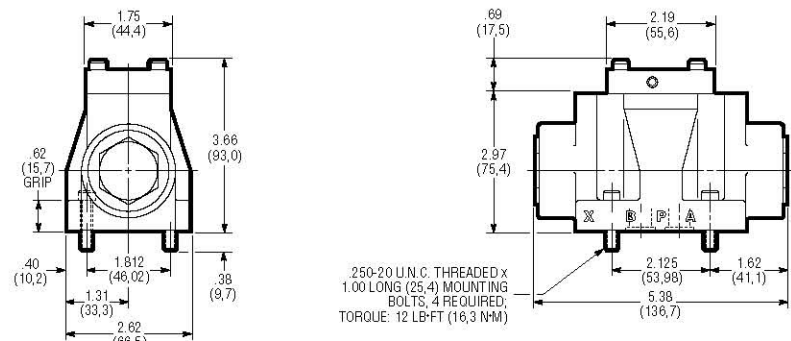
As shown, these models use a cross-over block to direct flow from auxiliary ports "X" and "Y".

Weight (Mass)

6.0 lbs. (2,7 kg.)

"X" AND "Y" PORT FUNCTIONS

Model	Port "X"	Port "Y"
681*	Actuator A	External Drain
682*	External Drain	Actuator B
685*	Actuator A For: Type 5,6,8,9	Actuator B for: Type 5,6,8,9
	Actuator B For: Type 56,58	Actuator A For: Type 56,58



6800 Series, Direct Hydraulic Piloted Models

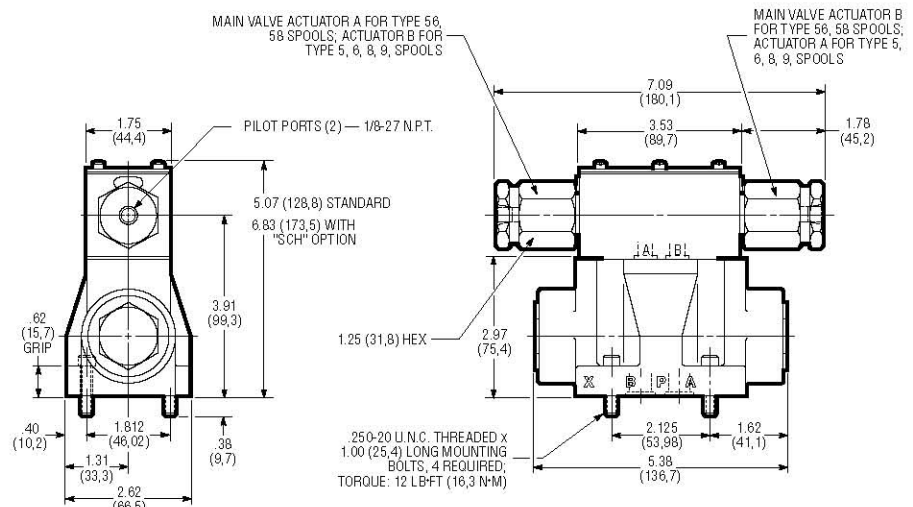
AIR PILOTED MODELS

These models use an air piloted D03 valve as a pilot.

Single and double actuator models are available. Overall length of models with a single actuator (not shown) is 6.24 inches (158,5 mm).

Weight (Mass)

Single Actuator: 8.4 lb (3,8 kg);
Double Actuator: 9.1 lb (4,1 kg)



6900 Series, Double Air Piloted Models

Typical Model Code

6 6 4 5 — D05H — 115/DF — R — CH — 1 0

Valve Type		Spools		Reverse Flow Operator (Code 4 Only)		Modification Number	
6 — Subplate Mounted Directional Control		5		R — Two Position; Spring Centered, Actuator Offset (P→B)			
		6				Design Number	
Actuator		8				Options	
6 — Solenoid Operated		9				SOLENOID OPTIONS:	
8 — Direct Hydraulic Piloted		56 ^①				C — CSA and UL Recognized Coils (Etched with Symbol) ^①	
9 — Air Pilot Operated		58 ^②				M — Hand Actuated Manual Override ^②	
		① Closed Crossover ② Open Crossover				T — Terminal Strip ^{②③}	
						CG — Cable Grip, for .38 to .44 inch (9,5 to 11,1 mm) O.D. machine tool cable ^{②③}	
						SL — Solenoid Lights (Available 115/DF A.C. Only) ^{②③}	
						HPT — High Pressure Tank Port 2300 psi (160 bar) maximum A.C. models 3000 psi (210 bar) maximum D.C. models	
						BH3A — 3-pin Connector (N.F.P.A. standard T3.539-1980) for single solenoid models, on port "A" end of valve ^{②③④}	
						BH3B — 3-pin Connector, for single solenoid models, on port "B" end of valve ^{②③④}	
						BH5A — 5-pin Connector for single or or double solenoid models on port "A" end of valve ^{②③④}	
						BH5B — 5-pin Connector for single or or double solenoid models on port "B" end of valve ^{②③④}	
						GENERAL OPTIONS:	
						ID — Internal Drain	
						XP — External Pilot	
						CH — Flow Control (Pilot Choke) ^⑤	
						① Available with 115/DF solenoids only. For other voltages, consult the Dynex sales department	
						② Option not available with "EPW" solenoid models.	
						③ Option not available with "Plug-In-Terminal" solenoid models.	
						④ N.F.P.A. standard T3.539-1980; A.N.S.I. standard B93.55M-1981.	
						⑤ Models with this option are rated to 3000 psi (210 bar) maximum.	
						Electrical – Solenoid Options	
						STANDARD SOLENOIDS:	
						24/DF — Dual Frequency, 24/60, 24/50	
						115/DF — Dual Frequency, 115/60, 110/50	
						230/DF — Dual Frequency, 230/60, 220/50	
						460/DF — Dual Frequency, 460/60, 440/50	
						12VDC — Direct Current, 12 Volts	
						24VDC — Direct Current, 24 Volts	
						115/60 EPW — Explosion Proof Solenoids	
						110/50 EPW — Explosion Proof Solenoids	
						220/50 EPW — Explosion Proof Solenoids	
						PLUG-IN TERMINAL SOLENOIDS: ^①	
						115/HAC — Dual Frequency, 115/60, 110/50	
						230/HAC — Dual Frequency, 230/60, 220/50	
						12/HDC — Direct Current, 12 Volts	
						24/HDC — Direct Current, 24 Volts	
						For Other Voltages, Consult the Dynex Sales Department	

① Fits DIN Connector Standard 43650 (Hirschmann GDM 209)